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ABSTRACT

A study investigated whether there was a correspondence between the skills, knowledge, and attitudes that are required to enter into employment and those that are provided by nonformal vocational training programs in the building trades in Zimbabwe. Two types of employment were considered. The first type was employment in industry achieved through passing a trade test in the building trades. The second type of employment was self-reliance in the form of either self-employment or cooperative activities in the building trades. Information was collected from officials at the Ministry of Labor and Social Welfare, the Ministry of Higher Education, the Ministry of Cooperative Development and Women's Affairs, and from principals, instructors, and trainees at three training centers. Interviews, questionnaires, and documents were used in collecting the information. The results of the study indicated that the requirements to pass a trade test or enter into self-reliance activities successfully were very wide. None of the training programs studied was found to provide the whole range of the skills, knowledge, and attitudes required. Two of the centers provided more of them than the third center. (Includes 18 references and the interview schedules.) (Author/KC)

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Correspondence between non-formal vocational training in the building trade and the requirements for employment

Cornelius K. Rudzuma

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CORRESPONDENCE BETWEEN NON-FORMAL VOCATIONAL TRAINING IN THE BUILDING TRADE AND THE REQUIREMENTS FOR EMPLOYMENT

Cornelius K. Rudzuna

DISSERTATION
submitted as partial fulfilment for an
MA DEGREE IN BUILDING EDUCATION

LINKÖPING UNIVERSITY
Department of Education and Psychology
REPORT LiU-PEK-R-144

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The study set out to investigate whether there was a correspondence between the skills, knowledge and attitudes that are required to enter into employment and those that are provided by non-formal vocational training programmes in the building trade. Two types of employment were considered. The first type was employment in industry through the requirements to pass a trade test in the building trade. The second type of employment was self-reliance in the form of either self-employment or co-operative activities in the building trade.

Information was collected from the Ministry of Labour and Social Welfare, the Ministry of Higher Education, the Ministry of Co-operative Development and Women's Affairs, and three training centres. Interviews, questionnaires and documents were used in collecting the information.

The results of the study indicated that the requirements to pass a trade test or enter into self-reliance activities successfully were very wide. None of the training programmes studied was found to provide the whole range of the skills, knowledge and attitudes required. Two of the centres provided more of them than the third centre.

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FOREWORD

This Master of Arts dissertation was prepared within the framework of a bilateral cooperation project between Sweden and Zimbabwe. The Swedish International Development Authority - SIDA - provided financial support for the project.

Linköping University has been responsible for the education in cooperation with the University of Gothenburg. Fifteen students participated in the programme. Three students completed the main part of their education at University of Gothenburg. Twelve students completed their education at Linköping University.

For the twelve Linköping University students, the Department of Crafts and Design held the major responsibility for the courses. The exceptions being the course in research methodology and the actual preparation of the dissertations where the Department of Education and Psychology was responsible. Facilities for the fieldwork were provided by the University of Zimbabwe.

The Department of Crafts and Design has been the host department and responsible for the administration and coordination of the programme.

Linköping May 16, 1989

Bengt Wetterstrand
Head of Department
Dept of Crafts and Design

Lars Owe Dahlgren
Professor and Examiner
Dept of Education and Psychology

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The researcher also wishes to thank all the people at the three training centres visited. The principals, kindly permitted the studies to be carried out at their centres and sacrificed their time for the interviews. The instructors, provided useful information about the training, and the trainees, were co-operative in answering the questionnaires. Similar thanks also go to the officers in the three ministries who were interviewed.

Lastly but not least, the researcher wishes to thank the Department of Craft and Design of the University of Linköping for all the material support that it kindly provided. Special thanks go to all the staff in the department.

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ABBREVIATIONS USED

AZNCC	Advanced Zimbabwe National Craft Certificate
CDU	Curriculum Development Unit
FETC	Further Education in Teaching Certificate
NGO	Non-Governmental Organisation
'O' level	University of London, General Certificate of Education Ordinary level
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VTS	Vocational Training School
ZIMFEP	Zimbabwe Foundation For Education with Production
ZJC	Zimbabwe Junior Certificate
ZNCC	Zimbabwe National Craft Certificate

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BACKGROUND AND PURPOSE OF THE STUDY

The concept of non-formal education has recently been revived. Many research studies on non-formal type of education focused on the extent to which the programmes have contributed to development in developing countries. There is also a need to access the suitability of non-formal education programmes to the requirements of the people. This study is based on a premise that if non-formal type of vocational training programmes in the building trade are to be effective, then they must provide training that is suitable. The suitability of the training can be measured by the ability of the outputs of the training programmes to employ the acquired skills gainfully. Figure 1 is a conceptualisation of the ideas which form the point of departure for the study.

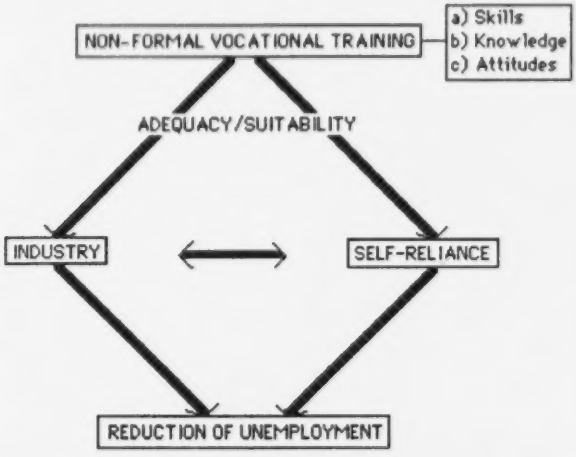

Figure 1. Diagram showing a conceptualisation of the ideas which form the point of departure of the study

The basic idea being illustrated by the diagram is that non-formal vocational training helps to equip adults, youths and school-leavers with skills, knowledge and attitudes which make them to be employable in industry or able to enter into productive self-reliance activities. The adequacy or suitability of a training programme must involve some comparison between what is required for this and what is provided by a particular programme. The two types of employment being considered are employment in industry, and self-reliance through self-employment or co-operative activities. The double headed arrow between the two types of employment illustrates that the trainees can move from one type of employment to the other.

The researcher's interest in non-formal type of education developed from the emphasis that has recently been put on the development of the majority of people particulary the poor masses in developing countries. The target group of the non-formal vocational training is those people who have not been able to benefit from formal type of vocational training. In Zimbabwe there is very stiff competition to enter into the formal type of vocational training. This means that many people are left out. For these people, non-formal vocational training offers an alternative.

The training, however, can be a waste of valuable time and scarce resources unless it is designed to meet the direct training needs of the people. The training programmes are therefore faced with a challenge. No previous research has been conducted to investigate this aspect of non-formal type of vocational training in Zimbabwe. This provided the incentive for the focus of this study.

One important outcome from this study will be insights from these programmes. Their experience can be tapped and fed back into the network of vocational training. This may prove to be of benefit to the more formal programmes including the vocational and technical education in secondary schools.

1. FORMAL AND NON-FORMAL TYPES OF EDUCATION IN DEVELOPMENT

Education and development have been found to be inseparable. Nations design education systems to suit their particular development requirements.

1.1 Structure of education

Education consists of three more or less distinct types namely, formal non-formal, and informal types of education.

The terms are used with the meaning as defined by Coombs and Ahmed (1974, p 8) as follows;

Formal education . . . *is the institutionalized, chronologically graded and hierarchically structured education system spanning lower primary school and the upper reaches of the university . . .*

Nonformal education . . . *is any organized, systematic educational activity carried on outside the framework of the formal system to provide selected types of learning to particular subgroups in the population, adults as well as children.*

Informal education . . . *is the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment . . .*

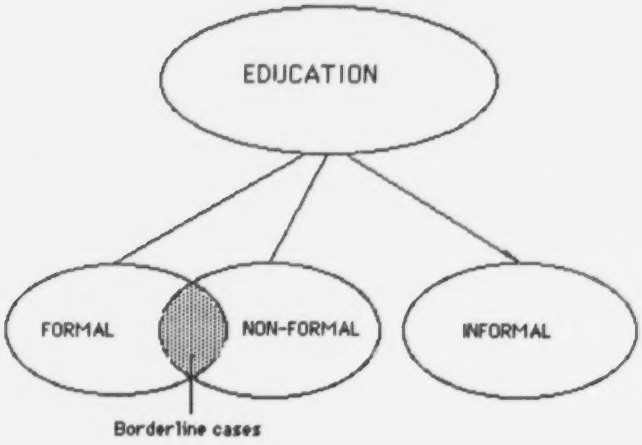

Figure 2. Diagram illustrating the relationship between the three types of education

Simkins (1977) gives his own interpretation of the structure of education. He argues that informal is not a type of education but that, instead, it is all the learning that an individual experiences during his lifetime. Formal and non-formal types of education are part of the learning. This concept of education is illustrated in the diagram in figure 3.

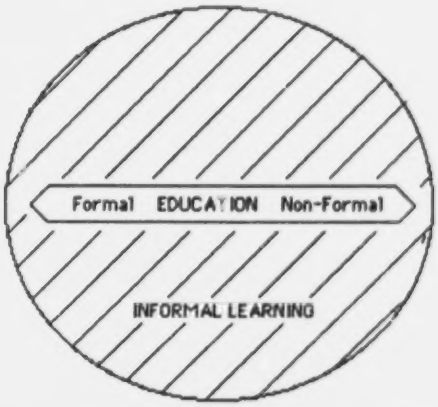

Figure 3. Diagram illustrating the relationship between informal learning, on the one hand and formal and non-formal education on the other hand. Source: Simkins, 1977, p 9

Coombs and Ahmed (1974) emphasise the fact that formal and non-formal types of education are organised while the informal type is not. Simkins (1977) provides further clarification by giving examples. Informal type of education from the radio may become either formal or non-formal when they are purposefully directed towards a specific learning objective.

The two ways of looking at education lead to the same conception about formal and non-formal types of education. Both diagrams show that the distinction between a formal type of education programme and a non-formal type is difficult except at the extreme ends of the continuum.

The task of further dividing formal and non-formal types of education, however, is difficult. Coombs and Ahmed (1974) give the main difference between the two as being that non-formal education is carried on outside the main framework of the formal system. But this can be misleading as the concept of the framework of the formal system is not quite clear and can differ from one country to another as pointed out by Patel (1984). Simkins (1977) expands this idea of the institutionalisation of the formal type of education. He explains that the curriculum for the formal type of education is fixed, whereas that of the non-formal type can be changed now and then to suit particular requirements.

Another factor used to distinguish between the two types of education is to look at the source of funds. Funding for the formal type of education comes from the central government, while funding for the non-formal type of education can come from many sources such as the World Bank, the United Nations Children's Fund (UNICEF) and so on. (Coombs, 1985)

The distinctly formal or non-formal types of education are described by Simkins (1977) as *'paradigm cases'*. He means that they are rare. Most programmes contain characteristics of both formal and non-formal activities. They can still be classified according to the activities which are more dominant. Those programmes which have characteristics of both types of education are described by Patel (1984) as borderline cases.

1.2 Functions of education

Having looked at the picture of education, it is now time to look at some of the functions, to individuals as well as to the society. Before the second world war, education was regarded as a way of satisfying the human inborn curiosity and desire to learn. This meant that the pursuit of education was an end to itself. Education was used mainly to give high status. Simkins (1977) argues that the main purpose served by education during that time was to provide people with credentials. This is now labeled as the *'consumption theory'* (see Coombs, 1968, p 12). Only a minority of the people benefited from the education. As a result there existed elite groups with education, while the majority remained uneducated. If education is an agent of development, it is clear that the majority of people were not offered the means to develop themselves.

After the second world war, people, especially in industrialised countries, realised that there was need to restructure education. Educationists and politicians realised that education and the economic growth of a country were inseparable. The planners designed the education to produce high and middle level manpower needed to revive the economies damaged by the war. This can be labeled as the *'human investment theory'*. (see Coombs, 1968, p 12)

In industrialised countries, education was designed according to needs. The socio-economic and cultural backgrounds were considered in the design and planning of the education. But for developing countries the *'human investment theory'* meant that education systems were imported from industrialised countries. It was generally thought that this education would bring about the same sort of development as in industrialised countries. But what was not considered was that the socio-economic and cultural backgrounds were different. The result of the human investment centred education in developing countries, was that it produced manpower not suitable for the kind of employment available. The people, even though they had a training, could not be employed. Education therefore consequently contributed to a rise in unemployment. Both the human investment and the consumption

theories are regarded as dysfuntional by Simkins (1977). Coombs (1968) subscribes the failure of education to the fact that only the formal type of education was emphasised.

By the late 1950s, it was gradually realised that these simplistic views and dysfunctional approaches to education were not solving the problems of delivering education and training appropriate to the needs of the majority of the people. Educationists and politicians advocated making education functional. To make education functional, education planners and politicians were convinced that the development of the majority of the people had to be considered. This time they considered all the people, and especially the poorest people, in most cases living in the rural areas and by-passed by the developing process. It was generally agreed that the education should be more integrated with development and community based. The new concept of education became *'growth with equity'*. (see Coombs, 1985, p 19)

Neither the human investment nor the consumption theories in education had been able to provide mass education in developing countries. The two theories had only produced an elite. And save this elite, the manpower was unemployable. By the early 1960s, people realised this inadequacy. The realisation was described by Coombs (1968) as *'the world educational crisis'*.

Simkins (1977) highlights the failure of the education system to spread to the masses as the heart of the problem. This failure to spread education to the masses is attributed by Coombs (1968) to the massive rise in students enrolments. The increases in enrolments were partly caused by a rise in societies' awareness and consequent increased demand for education and partly by population growths.

The expansion in education provision, especially in developing countries, could not keep pace with the increases in enrolments. The developing countries were faced with teacher shortages and other problems all of which laid on financial constraints. By the early 1980s, according to a review by Coombs, the problems had increased. (Coombs, 1985). The UNESCO study of 1962 had set 1985 as the target year for attaining universal primary education in developing

countries. However, in the early 1980s, statistics indicated that this objective was not going to be achieved. (Coombs, 1985)

As the awareness of the problem grew, especially during the early 1970s, objectives in education were shifted from the human investment and the consumption theories to meet a wider range of objectives. Coombs (1985) points out that the education had failed to achieve the expected goals according to the new way of looking at development. He also points out that planners began to turn to other forms of education to meet new and complicated needs. This was because the type of education that was emphasised was the formal type. Because formal type of education failed to meet the needs, societies turned to non-formal type of education with the hope that it would provide the answer. But as Patel (1984) points out, the non-formal type of education is not intended to replace the formal type of education. It is as an alternative to fill the gaps left behind by the formal type of education.

The interest in alternatives inspired many organisations to sponsor research studies in the field of education and development. Results indicate that non-formal type of education can provide the solution both quantitatively as well as qualitatively. Coombs (1985) points out that the non-formal type of education has the advantage in that it is more adaptable to the needs of the rural areas. Simkins (1977) supports this view. He also believes that the non-formal type of education is cheaper than the formal type because the non-formal type requires simple and low cost facilities and may also reduce costs through the sale of commodities produced during the educational process. Coombs (1985) reminds us that to compare the costs of formal and non-formal programmes when there are so many variables controlling the two produces misleading results.

1.3 Technical and vocational training

Apart from failing to provide education for the majority, the education was not suitable for national development. Coombs (1985) points out that there was a discrepancy between educational systems on the one side, and national and local manpower requirements on the other side. Developing countries were found to be in a worse situation than industrialised countries. The discrepancy between what the education system produced and the requirements for manpower was strongly felt in the area of technical and vocational training.

Besides contributing to national development, the non-formal vocational training of adults, school leavers and youths advances their employment opportunities. King (1987) examined the importance of non-formal vocational training to self-reliance activities in Kenya. The findings are applicable to other developing countries. King (1976, 1987) also carried out studies in many African countries. He established that training is vitally important for the succcess of entrepreneurial activities.

Sheffield and Diejomaoh (1972) also carried out researches on non-formal training programmes in Africa. They drew the general conclusions that :

a) Non-formal education programmes have different target populations including adults, school-leavers and youths,

b) There are two categories into which non-formal type of education programmes can be put. These are projects geared to reduce unemployment among youths, and to stimulate industrial output, and adult literacy programmes,

c) There was a close correlation between non-formal education and the creation of skills and jobs.

Coombs and Ahmed (1974) also carried out researches on non-formal education programmes both in Africa as well as in other developing countries. From the researches they drew the conclusion that non-formal education programmes are making a contribution to development by covering up for the inadequacies of formal education. One of these areas is vocational training.

The Marga Institute (1974) also examined non-formal education in Sri-Lanka. Their findings were that non-formal education plays an important role in providing education including vocational training to the majority of people who lack education and are in line with those of other researchers.

In conclusion, it should be stressed that the literature review has indicated that the formal type of education, that has been emphasised especially in developing countries, has failed to bring development to the majority of the people. For this reason education planners turned to non-formal type of education with the hope that it would provide the remedy. Non-formal type of education is seen only as part of the answer to providing training to adults, school-leavers and youths and advancing their employment opportunities. Equal attention should be paid to the restructuring of formal education so that it more effectively contributes to development. Non-formal type of education cannot eliminate or substitute for formal education, it is a compliment.

2. EDUCATION ISSUES IN ZIMBABWE

Education in Zimbabwe followed much the same pattern as in other countries.

2.1 Imbalance in education

The colonial government in what was then called Rhodesia did not provide the same and equal education to the Africans (blacks) as to the Europeans (whites). Chikombah (1988) points out that in 1967, for example, the same allocation was given to African education as to European education. Yet the population of African students was 700,000, ten times as many as the 70,000 European students. Obviously not all African children could get access to education. But it was easy for European children.

The quality of education provided to the Africans was also inferior. The education provided to Africans only prepared them to be servants to the Europeans. There was no equity in the provision of education. Thus it can be said that the education provided for the Africans was dysfunctional. It did not promote development because the majority of the people, the poor people in the rural areas, were largely ignored. The education, to quote Chikombah (1988, p 25), was . . . *the elitist, meritocratic bourgeois colonial educational provision where the philosophy behind educational policy was 'small is beautiful'.*

2.2 Expansion in education

At independence therefore, Zimbabwe was faced with the problem of the majority of the people having no education. The government was faced with a moral obligation to expand education in order to redress the imbalance. This expansion was from primary level to university and in both the formal and non-formal sectors. Table 1 highlights the increase in enrolments from 1979, just before independence, to 1985 five years after.

Table 1. 1979-1985 enrolments by levels and types of education. Table compiled from Mackenzie, (1988 p 339) and Chikombah (1988, p 12)

Year	Primary	Secondary	TT Colleges	University
1979	819,586	66,215	2,249	1,481
1980	1,235,994	74,321	2,829	1,873
1981	1,715,169	145,801	3,610	2,525
1982	1,934,614	224,609	4,873	3,091
1983	2,046,123	316,438	-----[a]	-----
1984	2,214,798	422,584	-----	-----
1985	2,229,396	497,766	17,000	5,000
Increase	205%	538%	656%	238%

a enrolment figures not available.

Technical and vocational training was also increased. Formal technical training colleges were increased from 2 at independence to 14 by 1985. The government did not fail to realise the importance of vocational training just as the industrialised countries had done soon after the second world war. The Ministry of Youth Sports and Culture, Ministry of Co-operative Development and Women's' Affairs

and the Ministry of Labour and Social Welfare established non-formal vocational training centres throughout the country to provide training to the adults, youths and school-leavers in the most needed skills.

Concerning the technical and vocational training Chikombah (1988, p 16), poses three important questions: '*Have the programs achieved the objective-stopping drug addiction, prostitution, robbery, etc.? Have the youth been able to self-employ themselves? Have co-operatives been successful?*' In the present study, another question is posed which, it is believed, should be answered before Chikombah's questions. The question is: Are the programmes providing the kind of training that is required to meet the real needs at hand? The answer to this question underlies the answers to Chikombah's questions.

The expansions in education outlined above had positive as well as negative results. The main positive results were that education was provided for the majority of the people both in urban as well as in rural areas. The education was provided under the policy of 'growth with equity'.

However, the expansion was faster than the provision of teachers which resulted in teacher shortages. This led to the recruitment of expatriate teachers, most of whom had difficulties in adjusting to the education and cultural conditions of the country. In addition, according to a study done by Chikombah (1988), 43,38 percent of the teachers in primary and secondary schools in 1984 were found to be untrained. This adversely affected the quality of the education provided.

The expansion also meant a large increase in the output of school-leavers. Only few of the school-leavers could find places for further education; teacher training, training in agriculture, nursing, or technical vocational training for example. These were the main formal outlets for school leavers in Zimbabwe. Chikombah (1988) points out that during the period 1982-1985 only 20% of secondary school leavers were likely to find places in Form 5. The rest were left to look for employment. Yet there were very few chances of getting employment and the employment available was not the kind that the school-leavers were looking for - the pay was poor. The problem of

lack of employment opportunities lies in the fact that, as both Chikomba (1988) and Timar (1988) point out, the economy of the country is still in the unscrupulous hands of the whites. The employers seek experienced workers rather than school leavers.

The government encourages school-leavers to form or join co-operatives and thereby get themselves some means of self-reliance employment. But the big problem is that school-leavers lack the necessary training to be able to enter into self-reliance activities successfully. Just as in many developing countries, non-formal vocational training is expected to offer a solution. It is expected to provide skills to many of these school leavers and other youths and adults and advance their employment opportunities. This can only happen if the skills, knowledge and attitudes provided by the non-formal vocational training programmes correspond with the skills, knowledge and attitudes required for employment.

2.3 Conclusions and research objectives

In this study, two types of employment are considered. The first is the building industry. The requirements for employment in the building industry can be established through the skills needed to pass an industrial trade test. The trade test is the bridge between the non-formal training programme and being considered as a qualified artisan. The second area of employment is self-reliance through either self-employment or co-operative activities. When it comes to self-reliance, it can be argued that what is necessary are skills, knowledge and attitudes in a particular trade which should involve ability to work as an individual or in co-operation with others. These should involve the ability to plan and work in an economical way as well as good management of private business if profits are to be earned.

When these skills, knowledge and attitudes are clearly defined, then one can study the training programmes to see to what extent they teach these. And in which way can the skills, knowledge and attitudes that the training programmes provide be identified? Each programme will have its own syllabus outlining what skills, knowledge and attitudes this particular programme should equip the trainees with. In addition,

what the trainees finally get out of the course depends on how the principal and the instructors of a particular training centre perceive the aims and objectives of the programme. It also depends on the machinery, equipment and tools that the trainees are exposed to during the training. The extent to which there is a correspondence between the skills, knowledge and attitudes required to pass a trade test or enter into self-reliance activities successfully on the one hand, and those provided by the training programmes on the other hand, show to what degree the training is compatible with the requirements.

Figure 4 illustrates how the objectives for the study have been zeroed in on non-formal vocational training in the building trade.

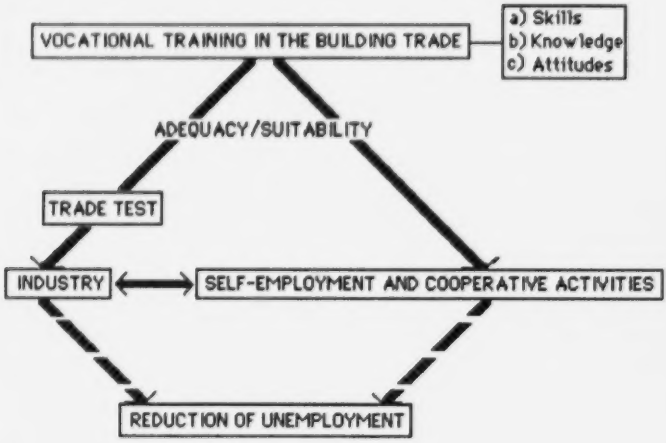

Figure 4. Diagram illustrating the relationship between vocational training in the building trade and its suitability for employment. The broken arrows indicate the assumed link. This is not being investigated

Non-formal vocational training is offered in a number of trades. In this study the focus is on the building trade. The main objective concerns the compatibility between the skills, knowledge and attitudes that the training programmes provide, and those that are required for employment. This can be established through the following sub-objectives.

1. To find out what skills, knowledge and attitudes are necessary for employment in industry as qualified artisans in terms of what is needed to pass an industrial trade test,

2. To determine what skills, knowledge and attitudes are necessary for entering into self-reliance activities,

3. To find out what skills, knowledge and attitudes are provided by the non-formal vocational training programmes through a study of the syllabus, schemes of work and the instruction given to the trainees.

3. METHODOLOGY

The study aims to discover new insights in a part of non-formal type of education. No previous study with this particular focus to investigate the correspondence between non-formal training programmes and the requirements for employment, had been carried in Zimbabwe. It was a new area investigated to collect information which could contribute to the building up of knowledge on the subject. For this reason, the design of the research was what Selltiz et al (1959, p 50) describe as an *'exploratory'* study. The study was of three cases.

3.1 Choice of cases

Non-formal vocational training programmes are not all run in the same pattern. Syllabuses are designed by different groups of people from different educational fields. The general aims of the programmes may be the same, but there are always differences in their specific objectives. Funding is also obtained from different agencies, and the target groups for training as well as the entry requirements are also different. The length of time during which the programmes had been in operation differs from centre to centre and the length of the training period is different from one programme to another. The training facilities available at each centre and the methods of training employed in each programme are different. It is for all these reasons that it was decided to study three centres in order that various information could be obtained. It was desirable that the centres chosen, should be obviously different. The main differences considered were the source of funding, the time the centre had been in operation and the target group that the centre aimed at providing training for.

Three training centres called A, B and C were chosen. Centre A had been in operation for twenty years, was funded by the Ministry of Labour and Social Welfare and aimed at providing training to students who had passed Zimbabwe Junior Certificate (ZJC). Centre B had been in operation for seven years, was funded by the Ministry of Youth Sports and Culture, and aimed at providing training to youths and school leavers who had been disadvantaged educationally during the war of liberation. Centre C had been in operation for two years, was funded by several private donor Non-Governmental Organisations (NGO) through the Zimbabwe Foundation for Education with Production (ZIMFEP) and offered training to demobilised former freedom fighters.

3.2 Subjects

The subjects at each of the training centres were the principal, the building instructors, and the trainees in the building trade.

The principals were chosen as subjects because they were in the best position to provide information about the administration of the centre, the history of the centre, the people who established the syllabus, and the broad and specific objectives of the training programme. The principals were also in the best position to supply information on the source of funding to run the centre and the target groups that the training programme was aimed at.

The building instructors were chosen as subjects because they were in the best position to provide information on the methods used in the training, the source of training material, and the skills, knowledge and attitudes that were actually taught. The instructors were also in the best position to provide information about the time spent on the training and whether it was enough to complete the syllabus. They were the only people in a position to comment on whether the syllabus included all the skills and knowledge needed.

The trainees would provide the trainees' point of view on the skills, knowledge and attitudes that were provided by the training programmes. This was considered important as a cross-check of the information provided by the principals or the instructors. Ten trainees were used as representatives at centre A. The trainees in the final year of training were not available to answer the questionnaires as they were doing 'O' level examinations. Trainees in Form 3, those in their first year of training, answered the questionnaires instead. Eleven trainees answered the questionnaires at centre B. At centre C, the six trainees who answered the questionnaires had completed their training that year and had just started a building co-operative. The co-operative was engaged in the painting of classrooms at the training centre.

The information concerning the skills and knowledge required to pass a trade test was obtained from the Department of Apprenticeship Authority and Registrar under the Ministry of Higher Education.

The subjects were the head of office and the senior manpower planning officer. The head of office was selected because he was in the best position to provide general information about the different levels of grading, the process of trade testing and the officials involved. The senior manpower planning officer was selected because he was in the best position to provide specific information on the skills and knowledge that were tested.

In the Ministry of Co-operatives a liaison officer was selected as the subject because he was in the best position to provide information about the skills, knowledge and attitudes that were necessary to enter self-reliance activities successfully.

3.3 Methods of collecting information

Interviews were used to collect information from the Ministry of Labour and Social Welfare and the Ministry of Co-operative Development and Women's Affairs and from the principals and building instructors at the training centres.

Interviews were selected because they were expected to give more information than questionnaires. Since only a few people needed to be interviewed there was no problem about time. The interviews were semi-standardised and semi-structured. According to Selltiz et al (1959), semi-standardised interviews ensure that all the people interviewed provide answers to questions which the researcher wishes to have answered. Being semi-structured, the interviews allowed the respondents to raise issues and questions the researcher had not previously considered.

Information about the skills and knowledge required to pass a trade test was obtained from the Ministry of Labour and Social Welfare through interviews with the head of office and the senior manpower planning officer of the Department of Apprenticeship Authority and Registrar (see Appendix number 1). Information about the skills, knowledge and attitudes needed to enter into self-reliance activities was obtained from the Ministry of Co-operative Development and Women's Affairs through an interview with the liaison officer (see Appendix number 2). Information from the principals and the instructors about the skills, knowledge and attitudes that the training centres provided was obtained also through interviews. (see Appendices number 3 and 4 respectively)

Information from the trainees was collected using questionnaires (see Appendix number 5). Interviews with each trainee would have needed a lot more time. In any case questionnaires were appropriate because of the relatively simple type of information needed. They enabled a larger group to be reached than through interviews. The method was economical. The questionnaires also allowed more anonymity to be provided to the respondents than with interviews. (Mason and Bramble, 1978)

Documents were also used to obtain information on the skills, knowledge and attitudes that were required for employment as well as those that were provided by the training centres. The syllabuses at all the training centres were studied. At centre A, in addition to the syllabus, the Proposal for Vocational Training Schools and a document outlining the history of the school were also obtained. These provided information to get a picture of the skills, knowledge and attitudes

provided at the centre. At centre C, a document outlining the objectives of the training programme and the history of the centre was obtained in addition to the syllabus. Apart from the syllabus, no other document was studied at centre B. At the Department of Apprenticeship Authority and Registrar, a Proficiency Schedule for Skilled Worker Classes was obtained. It outlined the skills that were tested in the building trade. At the Ministry of Co-operative Development and Women's Affairs, a booklet outlining the functioning of co-operative activities was obtained.

3.4 Validity and reliability of the information

Reliability of the information obtained through interviews was ensured in a number of ways. The choice of subjects ensured that information was obtained from the appropriate and probably most reliable source. Since the people had the relevant experience in non-formal vocational training, it ensured that the information obtained could be reliable (Selltiz et al 1959, and Bell 1987). The selection of three different groups of people at the same centre was to ensure that there was adequate representation of different types of experience. The information was recorded in writing during the interview. This was done to reduce the possibility of distorting the information when writing it up later. It is recommended that the information from an interview should be recorded quickly and accurately (Mason and Bramble, 1978 and Bell 1987). The objectives of the interviews were explained before the interviews. This was to remove any suspicions or doubts from the interviewees which could otherwise prompt them to withhold or give false information. Another strategy that was employed was to avoid personal questions which might daunt the interviewee. The respondents were sent a copy of the interview at least a week before the interview took place. This is recommended in order to allow the respondent time to think and prepare the answers. (Selltiz et al 1958)

To ensure validity of the information obtained, the interviews were semi-structured and semi-standardised. Being semi-structured allowed the content of the interview to be reviewed for validity before the interview. The questions were checked against the objectives of the

study to see whether the objectives were fully covered. This correspondence was also cross-checked by the research supervisor who is experienced in the subject. The interviews with the principals and instructors at the training centres being semi-standardised, ensured that the same questions were asked at all the centres. Structuring and standardising interviews are measures recommended to ensure reliability. (Mason and Bramble, 1978)

Reliability of information obtained through questionnaires was ensured in a number of ways. The majority of the trainees were expected to have a rather low level of education. For that reason, the questionnaires were designed in simple English which would be easy to understand. There were also not too many questions. This would avoid trainees getting discouraged or even confused. In this case, some questions would be left unanswered. Not much technical jargon was used. Trainees could answer in their vernacular language if they found English difficult. The majority of the questions were structured in such a way that the answers required were in the form of either a cross, a yes or a no. This eliminated the need for the trainees to express themselves in sentences or phrases.

One way to ensure the validity of the information obtained through questionnaires was by making their content valid and complete. Questions were carefully constructed to cover all the areas that the research was intended to investigate and to ensure that the wording was clear and straightfoward. They were scrutinised by the researcher and then cross-checked by the supervisor who is experienced in research methodology.

3.5 How the research was conducted

Authority to carry out the study at centre A and to visit the Department of Apprenticeship Authority and Registrar was obtained from the Ministry of Higher Education. For centre B authority was obtained from the Ministry of Youth, Sports and Culture, and for centre C from ZIMFEP. Authority to visit the Ministry of Co-operative Development and Women's Affairs was granted by that same ministry.

Appointments to visit the three training centres, the Department of Apprenticeship Authority and Registrar, and the Ministry of Co-operative Development and Women's Affairs, were made at the beginning of the field work. Each centre, was informed that interviews would be held with the principal and the building instructors and that questionnaires would be administered to the trainees. For the Department of Apprenticeship Authority and Registrar, and for the Ministry of Co-operative Development and Women's Affairs, information about which officials were to be interviewed was given at the time the appointments were made.

At the three training centres, interviews with the principals and the building instructors and the administering of questionnaires to the trainees were conducted by the researcher. The trainees were given enough time to answer the questionnaires and when they had finished, the questionnaires were collected by the researcher. In this way, maximum returns of the questionnaires was ensured. The sequence followed was different from one centre to the other. At centres A and C, the interviews with the building instructors and the study of the documents were conducted first, followed by the administering of questionnaires to the trainees. Lastly, the interviews with the principals were conducted. At centre B, the principal was interviewed first. Then the trainees were observed at work on a practical project at which point the questionnaires were administered. Lastly, the interview with the building instructors was conducted and a copy of the syllabus obtained to be studied afterwards.

The interview with the permanent secretary in the Ministry of Higher Education in charge of vocational training was conducted first. This had been requested before authority to enter the Department of Apprenticeship Authority and Registrar could be granted. Then followed the interview with the head of office, and lastly the interview with the senior manpower planning officer. Documents on trade testing were obtained to be studied afterwards. In the Ministry of Co-operative Development and Women's Affairs, an interview was conducted with the liaison officer and a document on co-operative development obtained.

4. PRESENTATION OF RESULTS

Since the objective was to find out if there was a correspondence, it was necessary first to establish what skills and knowledge are required to pass a building trade test and what skills, knowledge and attitudes are required for self-reliance activities in the same trade. Secondly, it was necessary to establish the skills and knowledge that are provided by the training programmes. All information regarding the skills, knowledge and attitudes required to pass a trade test and those needed in order to enter into self-reliance activities successfully were assembled on one side, and the skills, knowledge and attitudes provided by the training centres was assembled on the other. How they then matched will be presented in the next chapter.

In the present chapter, the skills, knowledge and attitudes needed to pass a trade test or enter into self-reliance activities will be presented first.

The type of information obtained can best be presented in simple text with no statistical analysis required.

4.1 Trade testing

The requirements for passing a trade test were obtained from the Department of Apprenticeship Authority and Registrar through interviews with the head of office and the senior manpower planning officer, and from documents.

The purpose of the test is to enable builders to obtain a nationally recognised qualification and license to practise. Other benefits include improving the chances of work, entitlement to a certain level of pay and protection on a job related issues through the Industrial Act. Vocational training is directed towards the requirements of the trade test. This is one of the main benefits that the trainee looks forward to when entering the training programme. If the programmes assist in the achievement of that goal, then the programmes can be said to be meeting the aspirations of the trainees in particular, and also of the nation in general.

A candidate applies to the government and pays a fee of Z$35. The test is conducted on a building site. The candidate either finds the site himself or the government does. Two examiners from the Department of Apprenticeship Authority and Registrar observe the candidate's practical skills for a period of about five days. The practical skills of putting up a building from setting out to building up to the top of the walls are tested. Although roofing, plastering, plumbing, painting and drain laying are skills needed in the construction of a building, they are tested under different trades and not in the building trade. Sometimes a written or oral theory test is given in addition to the practical test. This is up to the discretion of the examiners.

Passing a trade test places a candidate in a certain class and level of proficiency. There are four classes, 1, 2, 3 and 4 in that descending order of importance. Classes 3 and 4 are at the level of skilled workers or craftsmen. Candidates who qualify at this level are awarded a Zimbabwe National Craft Certificate (ZNCC). Those who qualify in classes 1 and 2 are awarded an Advanced Zimbabwe National Craft Certificate (ANZCC) and are at the level of artisans. Those who are above the level of artisans through higher qualification or more experience are called journeymen. A university degree in the trade places a candidate even above the journeymen and at the level of an engineer or technician. The main relevance of this discussion of the levels and classes is that in industry employees are salaried accordingly.

The Proficiency Schedules for Skilled Worker Classes show which skills that are tested in the building trade. They are as follows:

Class four (4)

a) Safety at work
b) Good housekeeping
c) Care and use of tools
d) Consideration for trades to follow
e) Laying common brickwork and cement blocks in standard thickness
f) Types of bonds, simple corners, stopped ends, laying of damp-proof course
g) Preparation of motor and concrete
h) Digging and leveling foundation trenches
i) Use of brickforce, hoop irons and lugs
j) Ventilation

Class three (3)

To include knowledge of class four (4)

a) Common and face brickwork
b) Laying of window sills
c) Jointing and pointing including cleaning of face-brickwork
d) Setting of door and window frames
e) Fixing of precast lintels and brick lintels over openings
f) Knowledge of stepped foundations and footings

Class two (2)

To include knowledge of classes three (3) and four (4)

a) Setting out buildings from slab level
b) Checking buildings for squareness
c) Reading simple drawings
d) Fixing datum pegs
e) Construction of fire-places and arches
f) Casting reinforced concrete
g) Construction of cavity walls

Class one (1)

To include knowledge of classes two (2), three (3) and four (4)

a) Reading of plans and scaling off measurements
b) Fixing profiles and setting out foundation level
c) Brickwork calculations and (expansion joints)
d) Ability to supervise with a view of creating initiative, personal responsibility and competitive ability

Testing is done everyday from Monday to Friday. One of the limiting factors for many candidates to be tested is the shortage of officials to conduct the tests. If candidates are not successful, they can re-register for the test as many times as they want. Those who are found to perform very badly are stopped immediately and are allowed to re-apply after a year.

4.2 Self-reliance activities

When it comes to self-reliance activities, it is not a question of requirements in the same strict sense as in passing the trade test in order to get employment in industry. It rather seems to be a matter of what is needed in order to be successful.

Since both self-employment and co-operative activities are taken as self-reliance activities, the same principles are applied because the same factors determine success or failure.

Training is an important prerequisite for ultimate success in these self-reliance activities. In the building trade in particular, it is a necessity. Under the Industrial Act, a builder cannot practise without a license. These are obtained by passing a trade test, holding a diploma from a technical training college or having a university degree. The competition for jobs in private practice, is so high that those who cannot show a high standard of skill in their work stand very little chance. Private entrepreneurs also need the knowledge of business management. Basic accounting, bookkeeping and business management skills are also needed to run a business efficiently.

Trainees need to know how to secure capital to start a private business. The training programmes can provide this knowledge. They also need basic tools. Again training programmes can also assist the trainees in acquiring them.

Comparative studies of some self-reliance activities in other countries indicated that the ability of the members of co-operative groups to work together has some bearing on the success. The training

programmes can prepare the prospective members for this co-operative work. It is for all these things that training is considered useful in order to prepare an individual to successfully enter self-reliance activities in the building trade.

4.3 Training provided by the centres

A large number of skills were involved. To be able to handle the information, the skills were divided into three categories. The first category consists of the basic skills of bricklaying and concreting. These are the skills needed in putting up a building from setting out, and building up to the top of the walls. They include knowledge in setting out of a building, laying of bricks in a straight line and leveling them, and fixing door and window frames. The second category consists of knowledge of building trade theory, building drawing and building calculations. The third category consists of other skills and knowledge needed in the construction of a building. These include roofing, plastering, painting, plumbing, drain laying and ceiling construction. For this category, knowledge can be provided in two different ways: either directly as craft theory and building drawing and calculations, or through doing the different operations practically, on site.

When studying the training at each centre, a number of aspects were taken into account. Firstly, the syllabus was considered as the main framework for training. Then the specific objectives and methods of training at each centre were considered to have bearing on the training. Finally, the facilities were taken into account.

Information about the skills, knowledge and attitudes that are provided by the training programmes was collected from the principals, the building instructors and the trainees at the centres. Whenever necessary, the information was cross-checked. This ensured accuracy and gathered opinions about the training from the different parties.

It was considered important that the information should come from all the four parties involved. This was to ensure representation of different types of experience. The final picture of the programme was

built up by putting together all the information. Figure 5 illustrates how each source of information was used in the building up of the final picture of what skills, knowledge and attitudes were provided by the training centres. Each centre will be described separately.

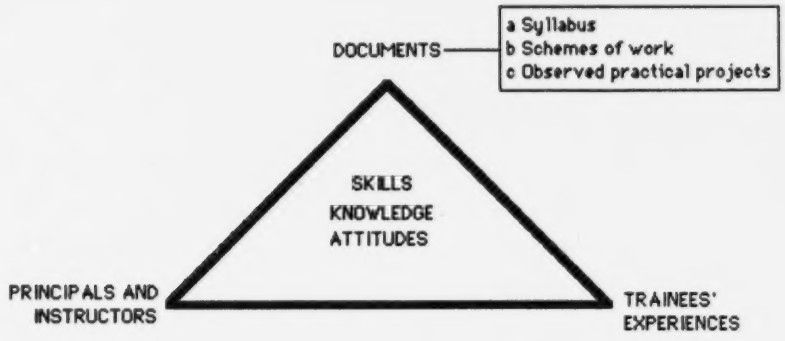

Figure 5. Triangle illustrating how information from different sources at the training centres was put together in order to obtain the final picture of each centre

4.3.1 Centre A

At centre A, the syllabus was used as the main guide-line in training. The building trade syllabus had been first established in 1969. The syllabus had been revised once between 1969 and 1974 and again between 1975 and 1984. The revisions were made mainly to keep training in line with changes in the building industry. In 1984, the training centre came under the government and a new syllabus was introduced. This was still being followed at the time of the study.

When the training centre was taken over by the then Ministry of Labour Manpower, Planning and Social Welfare, the intention was to turn it into a model vocational training school. The enrolment was open to all youths with good passes in the Zimbabwe Junior Certificate. The objectives of the programme are outlined in the Proposal for the Model Vocational Training School. These are;

2.1 To provide form 2 school leavers with an alternative education system with a practical bias hence providing pupils with a foundation from which they can progress up the technical training ladder to artisan, technician and professional levels.

2.2 To impart such skills as will be needed and can be applied to develop and service the local environment, through the building of home and farmsteads, schools, clinics, shopping centres etc.

2.3 To impart such skills as will enable the trainees to repair and maintain agricultural implements, engines, pumps, vehicles etc. as are needed and found in their environment.

2.4 To impart skills to the trainees to a level whereby they can be employed in industry or become self-sufficient.

The syllabus includes all the basic skills in building in the first and second categories. Skills in the third category are not included. The trainees also took five compulsory academic subjects namely English, Mathematics, Science, Technical Drawing and either Commerce or Economics. These subjects were designed in such a way that they were supportive and related to the practical subjects. The length of training was two years.

The instructor felt that the syllabus needed to be revised for two reasons. Firstly, it was too long and too detailed to complete within the time. Secondly, he felt that it was too advanced as it had been based on the one used by apprenticeship training schemes who obtained higher qualifications.

The instructor mentioned that the same skills as those outlined in the syllabus were taught. He felt that the training provided the skills needed for the construction of a simple building. The trainees' were asked whether the training should be increased or not. One trainee indicated that there was a need to increase practical training. Four trainees indicated that both practical and theory components needed to be increased, and five trainees did not respond to the question. On the whole, this indicated that the majority of the trainees felt that both the

practical and theory components of the training needed to be increased. Half of the total number of trainees indicated that they would be able to build a small house on their own without supervision while the other half thought that they would need such help.

According to the instructor, practicals were taught on Mondays, Tuesdays and Fridays for a total of 18 hours per week. Theory and technical drawing were taught for 4 hours on Thursdays. The instructor and the trainees both agreed that the training period was too short to acquire the necessary skills.

During their first year, trainees built temporary practical projects on the practice ground. These were designed by the Department of Apprenticeship Training in the Ministry of Higher Education.

For the second year, the instructor devised bigger projects like a small building which incorporated a number of different skills. All the projects were related to the skills outlined in the syllabus.

According to the instructor, the centre did not arrange any actual work on a real building site.

The assessment was of coursework projects marked by the instructor. At the end of the training, an assessment form was filled in for ten main projects. This determined the final result. These forms were sent for moderation to the Department of Apprenticeship Training which was the external examining board. From 1989, three of the projects are to be marked by officials from the department who are the external examiners. Trainees did not sit for a final examination at the end of their training.

On passing the examination, the trainees were awarded a certificate which had been equated to class 4 in the trade test. The certificate was also an entry qualification for apprenticeship training in the national training colleges and the Polytechnic. The majority of the trainees indicated that they knew of people who had previously completed their training at the centre. These people were still involved in the building trade and were doing well in their careers.

4.3.2 Centre B

Training centre B offered training to youths in motor mechanics, carpentry and joinery, building, food and nutrition, and clothing technology. In addition to one of these trades, agriculture and physical education were compulsory for all.

The initial target group was those youths who had been disadvantaged in education because of the war of liberation. For that reason no educational qualification was required. Pupils should have the ability to learn practical subjects and should be willing. As time went on, those youths who had been disadvantaged educationally were fewer. The majority of the trainees then, were secondary school leavers who either had poor results or had failed to secure places in the conventional or formal training institutes. They may also have failed to enter further education or secure employment. The entry qualifications, however, still remained open for all trades except clothing technology where a minimum of three 'O' levels were required. The instructors felt that the educational qualification on entry had no influence on results in practical work. However, they felt that it did have an influence on craft theory and building drawing especially on the use of technical terms and the interpretation of drawings. The standard of education that they recommended at entry was 'O' level.

No fees were paid by the trainees for the whole programme. They were instead provided with everything they needed including uniforms and protective clothing. They were also given a monthly allowance of Z$5 intended for buying tools with which they could start self-reliance activities after they have completed training.

The institute's objective for the training progaramme was three pronged. It was to train youths so that they could *'be employable, create employment and educate others'*. To get the trainees into jobs was the main aim. For that reason, the centre had introduced a programme of attachment to industry for the third year trainees. The result was that the trainees got the opportunity to be trade tested

because trade testing was done on site. They also got some experience in those activities that were done in industry and an opportunity to show to potential employers what they could do.

The trainees were also conscientised and prepared for self-employment and self-reliance. During training they were encouraged to acquire their own tools and to offer services in their communities at no charge as a way of advertising themselves. In the near future the centre intends to introduce short courses in bookkeeping and business management. In that way the trainees would be better prepared to join building co-operatives or enter into self-reliance activities in the buil g industry.

The syllabus at this centre had been established in 1981. It had been formulated by a team of specialists at the head office of the Ministry of Youth Sports and Culture. There was a member for each discipline and the team liaised with the instructors at each of the thirteen training centres in the country. The syllabus had been revised in 1985. The length of the training period was increased from two to three years and attachment to industry was introduced. These changes had been found necessary to prepare the trainees for trade testing which had not been considered in the original syllabus. The instructors did not find now any necessity for the syllabus to be revised.

The syllabus aimed at providing all the basic skills in building in the first and second categories. It did not include training in other skills in the third category. According to the instructors, all basic skills in the first and second category were taught. Both the instructors and all the trainees agreed that other skills from the third category needed in the construction of a building were also provided. The instructors and the trainees agreed on the time that was spent on the training. And also that the training period was of the right length.

The majority of the trainees indicated that the practical component needed to be increased. However, the instructors and the majority of the trainees agreed that the trainees would be able to build and complete a simple building without supervision from a more experienced person. The instructors mentioned that all the skills and knowledge were taught by getting plans, and from them calculating the

materials required. They would then set out and build the house from beginning to end.

The instructors mentioned that they got their resource material for training from the syllabus, from relevant permanent projects whenever they could do them, and from a text book. During the holidays the instructors attended courses conducted by the Ministry of Youth Sports and Culture to update their knowledge and better qualify themselves. As the instructors were not professionally qualified teachers, they also attended teaching methods courses at the Polytechnic.

Actual work on a building site was important in preparing the trainees for trade testing. The training centre made all the arrangements. One group of trainees worked under a building construction company and another group was engaged in the construction of a beer-hall for a local district council. This group was under the supervision of one of the instructors. In this way, they gained experience although they were not paid. The money received went to the centre.

Assessment was of practical projects which were given from time to time, marked and the marks recorded. The purpose of the coursework marks was to indicate which trainees needed help. In this way the instructors could look into the weaknesses of each individual and then try to give help.

Before 1985, trainees were given a practical test, set and marked at the centre. On being successful in this test, they were awarded a certificate. This certificate had no equivalence to the four classes of the trade test. Since 1986, trainees have been trade tested during their third year. Most of the trainees have passed with a class three. The majority of the trainees indicated that they knew of people who had previously completed their training at the centre. These people were still involved in the building trade and were doing well in their careers.

4.3.3 Centre C

The college offered vocational training in building, textile technology, woodwork, electronics and farm or motor mechanics. Trainees took one of the trades as well as agriculture which was compulsory. The college aimed to provide a systematic basic skills training in a trade so that successful people's co-operatives could be launched.

Eligible candidates were demobilised former freedom fighters. Since the target group was limited, the college aimed to extend it to ex-refugees and school leavers starting with those from ZIMFEP pilot schools.

Trainees did not pay fees but instead obtained scholarships from the Ministry of Labour and Social Welfare.

Since the prospective trainees were former freedom fighters, there was no specific educational qualification required for admittance. It was estimated that the average level of prior-schooling for this group could be four to seven years of primary education. The instructor felt that the educational qualification on entry into training had no influence on results in the practical work. However, he felt that it did influence the learning of theory and drawing. He met with problems in teaching measuring, drawing and calculations.

The main intention was to prepare trainees for self-reliance activities. The main areas which prepared them for this were the teaching of business skills, management skills, business studies, co-operative education and the carrying out of market researches; ordering, material and labour costing and calculations. Trainees were also prepared for employment in industry. The training aimed at helping them to pass at least the skills level class 4 of the trade test which would probably get them a job in the formal employment sector.

The syllabus was drafted by the ZIMFEP curriculum committee.

This draft was then sent to building instructors, technical officers and officers in the education division within ZIMFEP. It was also sent to Curriculum Development Unit (CDU) in the Ministry of Education and to representatives from commerce and industry. All these gave their comments and recommendations from which the final syllabus was decided. The building syllabus was prepared in 1986 when the college opened. The syllabus was now under review for the first time following suggestions from the instructor. He had found it too long and with some aspects which he considered irrelevant.

The syllabus aimed at providing all the basic building skills in all the three categories. The supportive academic subjects were Business Studies, Mathematics, Science, Co-operative Education and Political Economy.

The instructor felt that the time for training permitted practical training to be provided in the basic skills in the first category only. The practical skills in the third category were dealt with theoretically so that later on the skills could be picked up quickly.

The length of training was two years. Practical work was taught for 6 hours per day on Mondays, Tuesdays and Fridays. That made a total of 18 hours per week. Craft theory and technical drawing were taught for 4 hours on Thursdays and other academic supportive subjects were taught for 4 hours on Wednesdays. The instructor felt that the length of training was not sufficient to complete the syllabus and to enable the trainees to acquire all the skills they needed. The trainees also indicated that they felt that training was too short. The result was different from the opinions from centre B where the training period was considered sufficient.

The instructor mentioned that for most of the craft theory and drawing he got his training material from the syllabus and for the practical projects he used prepared lists of exercises. Some of these he had prepared himself and some of them had been prepared by his predecessor.

The instructor explained that during the first term, trainees built temporary practice projects on the practice ground. At that stage, the

main objective was to provide them with the basic bricklaying skills and create confidence in the use of tools. During the second year of training they tackled real life projects. He gave examples of projects that the group had built. These were a pre-school, a staff house and the foundation to the administration block. So far all the projects had been at the college. That had been possible because the college was at its initial construction phase. After all the possible projects at the college had been exhausted, then the trainees would be going out looking for employment in the neighbourhood. The trainees agreed that they had learnt all the basic skills in the first category. They also indicated that they had learnt some of the skills from the third category.

When they tackled real life projects, they operated in production units which was a major emphasis of the college. Here the trainees had the opportunity to apply their technical knowledge in such a way that they learnt about all aspects of production for commercial purposes such as marketing, quality control, and efficient organisation. The instructor was confident that the trainees would be able to put up a building on their own. This was because the building of real life projects was emphasised during the second year of training.

It was the aim of the college to provide exposure to the building industry. For that first group, the centre had failed to do this. Nevertheless, the instructor and all the trainees were confident that the trainees would be able to put up a building on their own.

Trainees were given regular coursework exercises which were marked. The marks were recorded. These were used to determine the passing of the trainees at the end of the course.

On successful completion of the course, trainees were awarded a ZIMFEP certificate. The Ministry of Higher Education also gave the trainees a practical test, and on passing it the trainees were awarded a Skilled Worker's certificate. These two certificates were not equivalent to the trade test. Some of the trainees who had been trade tested had passed with class 4, which is the lowest, but some passed with class 3. The instructor mentioned that it was the centre's initiative that the trainees be trade tested. They had noticed the value employers placed on trade tests.

The question of whether the trainees knew of people who had previously completed training at the centre was not valid. The trainees who answered the questionnaires were the first group to complete training at the centre.

5. ANALYSIS OF INFORMATION

The skills, knowledge and experience that are required to pass a building trade test and those that are needed in order to enter into self-reliance activities successfully, have been outlined. Also the skills taught by the training centres have been described. Now the task is to compare the skills and knowledge provided, with the skills and knowledge required, on the one hand, to pass the trade test and, on the other hand, to enter into self-reliance activities successfully.

The compatibility between the training provided at centres B and C and the skills and knowledge needed will be dealt with centre by centre. For centre A, the information that was obtained turned out to be that the certificates that were awarded were already established as equivalent to class 3 or 4 of the trade test. For this reason, there was no need to look at the compatibility between the requirements for passing a trade test and the training provided. The question that arose was now whether the requirements to pass a trade test were compatible with the skills provided leading to the awarding of the certificate. Figure 6 illustrates what the nature of the problem turned out to be in the different situations. The broken arrows and a question mark indicate where compatibility is being investigated. The other arrows indicate the assumed link which is not being investigated.

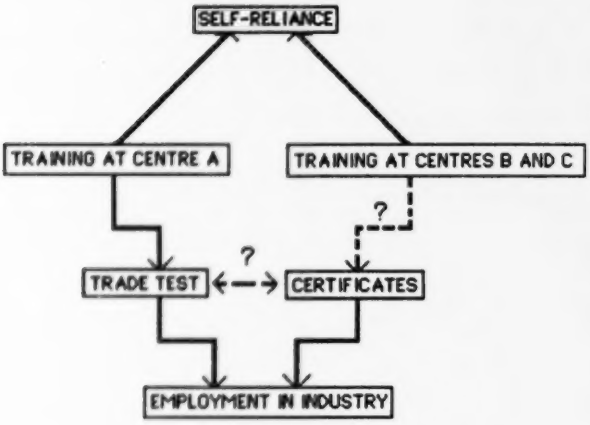

Figure 6. Diagram illustrating what the nature of the problem turned out to be after information from the training centres had been collected

The requirements to pass a trade test in the building trade can be summarised from the previous chapter. For the practical part of the test, the requirements consist of all the basic skills in the first category and other skills in building in the third category. In addition, experiences in the building industry is also required. For the theory part of the test, knowledge in building in the second category is required.

The skills, knowledge and attitudes that are needed to enter into self-reliance activities successfully have been defined. These have been found to include all the basic skills in building in the first category, all the knowledge in building in the second category and other skills in building in the third category. In addition it was also established that experience in the building industry and knowledge of commercial subjects are needed.

5.1 Centre B

At centre B it was established that all the basic practical skills in the first category were provided. Other practical skills in building in the third category such as roofing, plastering and painting, and experience in industry were also provided. It was also established that knowledge in building in the second category provided was the same as that required to pass the theory part of the trade test. The training programme therefore provided the skills and knowledge required to pass the practical as well as the theory part of the trade test.

The majority of the trainees from the centre who had been trade tested had passed with class 3. This indicated that the training provided preparation to pass this trade test.

The training provided skills, knowledge and attitudes which are needed to enter into self-reliance activities successfully. Most of the skills, attitudes and values needed to enter into self-reliance activities was provided in the form of the assistance given to the trainees in acquiring tools, the encouragement to offer services to the communities, and the engagement in mini-building contract projects like the construction of a beer-hall for a local district council.

The training was, however, found lacking in providing other knowledge related to self-reliance activities such as bookkeeping, accountancy and business studies. In this particular area, there was lack of match between the knowledge needed and what was provided.

5.2 Centre C

At centre C, it was established that all the practical skills in building in the first category and some of those in the third category such as plastering, painting and roofing were provided. It was also established that all the knowledge in building in the second category was provided. It was therefore clear that there was compatibility between the training

that was provided and the requirements for passing both the practical as well as the theory part of the trade test.

Knowledge, attitudes and values that are needed to enter into self-reliance successfully and that were taught include knowledge of business management. Business skills, management skills, business studies, co-operative education and the carrying out of market researches, ordering, material and labour costs and calculations were all dealt with. The engagement in production units also provided the knowledge, attitudes and values needed. It was therefore, found that the training programme provided some of the knowledge, attitudes and values that are needed to enter into self-reliance activities successfully.

However, concerning the skills, a disparity was found between the skills required to enter into self-reliance activities successfully and some of the skills in building in the third category that were taught. Plumbing, drain laying and ceiling construction for example, were only dealt with in theory. Trainees were expected to pick up on the practical skills on their own later. This means that the skills needed to enter into self-reliance activities successfully were not thoroughly taught.

5.3 Centre A

The skills and knowledge that are required to obtain a certificate at centre A will be compared with skills and knowledge that are required to pass a trade test. This analysis should indicate whether the equivalence that is already established between the certificate awarded at the centre and the trade test is valid. For the needs to enter into self-reliance activities successfully, however, the comparison will be made as with the other centres because the relationship between the certificate and the needs has not been established.

The skills and knowledge leading to the awarding of the certificate were found to consist of all the basic practical skills in building in the first category, and all the related theory in building in the second category. The provision of five supportive academic subjects were part

of the preparation needed to enter into self-reliance activities successfully.

However, there were no practical skills and related knowledge provided on any of the building skills in the third category. Neither was experience in industry part of the training.

It was found that the skills which were provided leading to the awarding of the certificate only satisfied part of the requirements for passing both the practical as well as the theory part of the trade test. It was also found that the training programme only satisfied a few of the needs to enter into self-reliance activities successfully. The conclusion is therefore that there is a disparity between the skills and knowledge required to pass a trade test, and those that are provided by the centre leading to the awarding of the certificate. This accordingly means that the equivalence in value that is already established between the certificate and the passing of the trade test is not valid.

6. Discussion

In this chapter, the views of the researcher on the outcome and implications of the results of the study are presented.

6.1 Summary

The study set out to investigate whether there was a correspondence between the skills, knowledge and attitudes provided by non-formal vocational training programmes, and the skills, knowledge and attitudes required, on the one hand to pass a trade test and, on the other hand, to enter into self-reliance activities successfully.

First of all the skills and knowledge required to pass a trade test were established. This information was obtained from the Department of Apprenticeship Authority and Registrar in the Ministry of Labour and Social Welfare which is responsible for trade testing.

It was found that to pass a building trade test, all the skills in building in the first category were required. These include the basic skills in building such as setting out, laying bricks and fixing window and door frames. Also required was all the related knowledge in the second category. The second category consists of other skills and knowledge in building theory, building drawing and building calculations. Skills in the third category belonged and were tested in other trades, but the teaching of them helped in understanding some aspects of building which was required to pass the trade test. The third category included roofing, plastering, painting and plumbing.

Secondly, the skills, knowledge and attitudes needed to enter into self-reliance activities were established. Information was obtained from the Ministry of Community Development, Co-operatives and Women's Affairs and the training centres.

It was found that to enter self-reliance activities, no skills and knowledge were required by regulation. The question was rather what skills, knowledge and attitudes were needed in order to be successful. The skills in building in the first category and other skills in building in the third category were found to be needed. Also needed was knowledge about building and a positive attitude towards self-reliance.

Thirdly, the skills, knowledge and attitudes that were provided by the training centres were established. Information was obtained from three training centres called A, B and C. Principals and the building instructors were interviewed, trainees answered questionnaires and documents like the syllabus and the schemes of work were studied.

The trainees who answered the questionnaires were in their final year. Trainees in the final year of training were expected to be able to provide sound information on the skills, knowledge and attitudes that the training programmes had provided. However, at centre A only Form 3 trainees were available. These had one year less of experience. It is strongly felt that the skills, knowledge and attitudes that these indicated do not fully represent all the skills, knowledge and attitudes that the complete training programme would have provided. For that reason, it is recommended that the information provided by these trainees be treated with caution. The researcher found it necessary to rely more on the information obtained from the other sources at the centre. Less weight was given to the information from the trainees - particulary when it differed from that obtained from other sources.

The three centres were found to be providing skills in building in the first and third categories and the related knowledge and attitudes to varying degrees. At centre A, all the skills in the first category were provided. However, only some but not all of the skills in the third category and the related knowledge in the second category were provided. At centre B, all skills in the first and third category were provided. But only part of the knowledge related to self-reliance

activities was provided. At centre C, skills in the first category and knowledge and attitudes were provided. However, the training was found lacking in providing other skills in the third category.

Lastly, the extent of correspondence between the skills, knowledge and attitudes required to pass a trade test on the one hand, and those needed to enter into self-reliance activities successfully on the other hand, was established.

For centres B and C, it was established that the training that was provided corresponds with the requirements for passing a trade test. At centre A, however, the results showed that although the certificates that were awarded to the trainees were contented as equivalent to passing a trade test, the training provided was not in fact compatible with the requirements for passing a trade test. Neither was the training at this centre found to satisfy the needs to enter into self-reliance activities successfully.

6.2 DISCUSSION

6.2.1 Compatibility

The majority of the trainees from centres B and C who had been trade tested had passed with either a class 3 or class 4 level. This indicated that most of the skills and knowledge that was provided at the two centres corresponds with the skills and knowledge that is required to pass a trade test. However, some of the skills and knowledge required to pass the trade test were not provided at the two centres. Most of the skills, knowledge and attitudes provided at the two centres also corresponds with the skills, knowledge and attitudes needed to enter into self-reliance activities successfully.

At centre B, academic subjects in business management were yet to be introduced. Until such time as these subjects are taught, the training will be lacking in the provision of some of the knowledge needed to

enter into self-reliance activities successfully. The result is that trainees do not now possess all the knowledge they need to run a private business.

At centre C, some of the skills were provided only in the form of theory. This meant that trainees who wanted to enter into self-reliance activities would be handicapped. The lack of such skills as plumbing, drain laying, roofing and ceiling construction means that the private entrepreneur has to hire other people. This means a loss of income to competitors. On the other hand, one could argue that the fact that they require the services of other people might ensure that there is division of labour among the private entrepreneurs. This would result in the creation of employment for more people and a higher quality of work produced.

The content of the trade test was found to vary. The practical test is conducted at different building sites and this means that the skills tested will be different. It is up to the discretion of the examiners whether the theory test be conducted either orally or in writing. This too results in the theory test not being uniform. The variation in the content of the trade test implies that it may not be so necessary that all the skills and knowledge required to pass a trade test correspond with those provided by the training centres. The skills and knowledge required to pass a trade test at one time may be different from those required to pass the test at a different time. The range of the skills and knowledge required to pass a trade test may be so wide that it might be difficult for the training centres to meet all of them. Providing all the skills and knowledge might involve high costs and longer training. This might not be desirable or even necessary for such non-formal type of programmes.

On the other hand, it can be argued that the difference in the content of the trade test may imply that the training centres need to provide even more skills and knowledge than they are providing at present. By providing more skills and knowledge an assurance would be made that whatever is tested will have been covered.

6.2.2 Identification of programmes

The programmes at centres B and C were easy to identify as non-formal vocational training programmes. They fitted the description given earlier in the study. The programme at centre A, however, had characteristics of both non-formal as well as formal type of programmes. So it was a borderline case as illustrated (Figure 2).

6.2.3 Target population

At centre A the original target group was standard six school-leavers who had failed to get a place at a secondary school. When the centre was taken over by the government in 1985, the entry qualification was raised to a good pass in ZJC. Five academic subjects examined at 'O' level were also included in the syllabus.

The implications of the shift from the original target group is that people who have not passed ZJC, are excluded from the training. In fact, the target group turned out to be ordinary pupils who have passed ZJC- just like those in the formal secondary school. This means that the programme no longer served the interests of any special group of people which is what the majority of non-formal type of education programmes do.

The addition of five academic subjects which are examined at 'O' level provides a chance for trainees to concentrate more on the prestigious academic subjects. As a result, the vocational training receives less attention. The implication is that the trainees do not cultivate positive attitudes towards vocational training which are an important aspect for the success of self-reliance activities. Since the vocational training receives less time this also means that the trainees are not likely to be fully equipped with the skills and knowledge required in industry.

At centre B, the target group turned out to consist of young men and women who had experienced the adversity of unemployment. The majority of the trainees were youths who had failed to obtain

secondary education before independence when the provision of secondary education for Africans was very limited. The trainees were highly motivated and eager to learn. The group that was engaged in the construction of a beer-hall for example, was living under very difficult conditions but working very hard for longer than normal working time. The trainees were not receiving money for the work. Whatever money that was received went to the school.

At centre C, training was provided for demobilised former freedom fighters. This particular target group presented two issues. The first was that motivation to learn was very high. The trainees had gone through a very difficult time. Their experiences had sharpened in them a determination to get a training. They tackled their work with enthusiasm and needed very little supervision. The second was that since the majority of the trainees were above the age of 25 years, they were mature and responsible. Both factors are considered to be conducive to learning.

On the other hand, their low level of educational attainment presented problems in the teaching of the necessary basic principles in building like measuring, calculations and drawing. This indicated the need for non-formal vocational training programmes to require some minimal level of schooling as a basis for training or for them to provide it.

6.2.4 Scope of programmes

The dedication and competence of staff at the three centres was impressive. At centre B for example, one of the instructors was with the group of trainees which was building a district council beer-hall. He had stayed there for more than a month with them sharing the difficult conditions. At centre A, the ingenuity of the instructor was also noted. The centre had last received bricks in 1985. But the instructor had managed to keep the programme going by arranging the moulding of cement bricks at the centre. This is the kind of dedication, competence and ingenuity that is needed for such non-formal vocational training programmes. There is a need to improvise and make do for a lot of things in order to keep the costs low.

The objectives at the three centres were specific and the syllabuses were designed to meet these objectives. The training emphasised practical demonstration rather than theory. The centres succeeded in providing the skills, knowledge and attitudes which the programmes set out to achieve. This resulted in there being compatibility between the skills, knowledge and attitudes required to pass a trade test or enter into self-reliance activities successfully and the skills, knowledge and attitudes provided by centres B and C.

6.2.5 Funding

The quality of training provided was closely related to the financial resources available. Centre A benefited from using the classroom facilities for both specific vocational subjects and 'O' level subjects. Probably the fees at centre A excluded students of lesser means. This payment of fees and the inclusion of five 'O' level academic subjects made the programme move away from being a pure non-formal type of programme towards being a formal type. Some of the advantages of pure non-formal programmes were lost.

At centre B there were no fees. Training was offered to unemployed school-leavers, youths and adults. The only problem was that many school-leavers, youths and adults were turned away because enrolment was limited by boarding and workshop facilities. This indicated that more training centres of this kind are needed in the country.

At centre B, quasi-commercial enterprises helped to recover some costs. The result was that the centre was able to function very well even though the trainees did not pay any fees. The trainees were able to pay their way by constructing buildings for the centre as well as for money. The centre was thus able to give each trainee a monthly allowance of Z$5. It was intended that the trainees would save and eventually be able to purchase their own tools with which to start self-help projects. This scheme is highly recommended.

At centre C, the payment of fees was not seen to have affected the training. The fees were paid in the form of scholarships from the

Ministry of Labour and Social Welfare. This arrangement for fees is recommended for other non-formal programmes. No willing candidates should be shut out because of lack of money.

At centre C, engagement in production units also helped to reduce costs. The earnings were divided equally between the training centre and the trainees. This helped to reduce running costs for the centre and also enabled the trainees to acquire pocket money. Most of the trainees had families at home who benefited from the money earned.

6.3 Suggestions for further research

Literature on the non-formal type of education reveals that there are vast differences in the scope and achievements of different programmes. Non-formal vocational training programme are influenced by the size of the programme, the length as well as the funding. It is believed that a fuller picture of the influence of these factors could have been obtained if time had allowed study of more programmes than just three.

The following areas can be of academic interest to some researchers and practitioners of non-formal type of education.

During the study, it was found out that there are no skills and knowledge required by regulation to enter into self-reliance activities in the building trade. However, a lot of people still belive that the success of self-reliance activities rests mainly upon the people involved being equipped with skills, knowledge and a positive attitude. It would be of interest to practitioners of non-formal type of education and co-operative activities for a study to be conducted in this area. A possible research question would be to investigate if vocational training in the building trade affects the success or failure of co-operative activities in the building trade.

The study did not find out whether people with non-formal vocational training in the building trade have increased their employment

opportunities. A study to investigate if and to what extent non-formal vocational training in the building trade increases employment opportunities would be of interest to a number of different groups. The results would help the government and non-governmental organisations to establish whether there is need to increase funding for the non-formal programmes as they are, or whether they should be reorganised. The training centres would also know whether they should continue training in the same way or whether there is need to re-define the objectives for the programmes and change the content of the courses.

At centre A, it was found that the emphasis on academic subjects was detrimental to the training as a whole. Yet, at the same time, at centre B and C, it was found that the non-formal vocational training programmes do actually require some minimal schooling as a basis for training. The knowledge required was taught in the academic subjects included in the training. The question then, is what the balance between the characteristics of the formal and non-formal type of education in the programme should be in order to produce the best results. A possible research question could be to investigate what the balance between academic and practical training in non-formal vocational training programmes should be which produces good results.

* * *

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Appendix 1

LINKÖING UNIVERSITY
Department of Education and Psychology

Semi-standardised, semi-structured interview with officials from Ministry of Labour, Manpower Planning and Development.

Purpose of interview:

To find out what skills and knowledge in building is tested in the industrial trade test.

Name of student carrying out the research; Cornelius K. Rudzuna.

1.What kinds of qualifications are there in the building trade?

2.What is the qualification that a person gets after passing an industrial trade test?

3. What other benefits are there in passing the trade test?

4. How many times in one year do you give the trade test in the building trade?

5. How many people have been tested in the building trade this year?

6. How does this number compare with the numbers in the previous years?

7. What is the rate of passing in the building trade?

8. How many times can a person repeat the trade test?

9. Where have most of the people who have been tested obtained their initial training?

10. Have you tested peole who have obtained their initial training from vocational training institutes?

11. Have the majority of these peole passed the test?

12. What is the time set for the trade test?

13. What practical skills in building do you test?

14. In what way are these practical skills tested?

15. What other knowledge in building do you test?

16. In what way is this other knowledge in building tested?

17. What is the qualification of the officials who set the trade test?

18. How do you ensure that the marking of the trade tests is uniform to all the candidates?

19. Do you have a structure or syllabus that you consider suitable for training for the trade test?

20. Would you please allow me to have copies of some of your previous trade tests?

Appendix 2

LINKÖPING UNIVERSITY

Department of Education and Psychology

Semi-standardised, semi-structured interview with officials from Ministry of Co-operative Development and Women's Affairs.

Purpose of interview:

To find out what skills and knowledge in building and what attitudes and values a person should have in order to be able to join or form a building co-operative or enter into self employment in the building trade.

Name of student carrying out the research; Cornelius K. Rudzuna.

1. What are the tasks of the Ministry of co-operatives with regards to co-operatives?

2. What practical skills in building are required for a person to start or join a building co-operative?

3. What practical skills in building are required for a person to enter into self-employment in the building trade?

4. What other knowledge in building is required for a person to join a building co-operative?

5. What other knowledge in building is required for a person to enter into self-employment in the building trade?

6. What are the most important attitudes and values that people should have before they should form a building co-operative?

7. What are the most important attitudes and values that people should have before they enter into self-employment in the building trade?

8. What different types of training do the people in the building co-operatives have?

9.Is there any type of training that is more common than the others?

10. IF YES. Which one?

11. Are there any building co-operatives formed by people who have no

training in building?

12. IF YES. Is there any difference in success between co-operatives with people who are trained in building and co-operatives with people who are not trained in building?

13. Generally what would be your advice to a group of people who come to you with the intention of forming a building co-operative?

14. What would be your advice to a group of people who come to you with the intention of entering into self-employment in the building trade?

Appendix 3

LINKÖPING UNIVERSITY

Department of Education and Psychology

Semi-standardised, semi-structured interview with the principals of non-formal vocational training institutes.

Purpose of interview.

To find out what skills, knowledge and attitudes the training programme provides to the trainees.

Name of student carrying out the research: Cornelius K. Rudzuna

1. When did the institute start operating?

2. What is the enrolment in the building trade this year?

3. How does this number compare with the enrolment in the other trades?

4. Is the building trade the trainees' first choice when they enter the training?

5. What is the procedure for selecting the trainees?

6. What particular group of people do you aim to provide training for in your institute?

7. Is there any reason why you aim for this group of people?

8. Do you ever turn away any applicants because you are fully enrolled?

9. Do the trainees pay any fees for the course?

10. Do you think that the institute is achieving its objective in equiping the trainees in building with the skills, knowledge and attitudes that they need?

11. Do you find that there are some aspects of the training that need to be adjusted in order to be more suitable in providing the practical skills in building that they need?

12. In order to provide the knowledge in building that they need?

13. Are they trained to be able to enter into self-employment?

14. IF YES What aspects of the training is aimed at preparing them for self-employment?

15. Do you think you are achieving that aim of training them for self-employment?

16. IF NO. What adjustment in the training should be made in order to prepare them for self-employment?

17. Are they trained to be able to enter into employment in industry?

18. IF YES What aspects of the training is aimed at preparing them for employment in industry?

19. Do you think that you are achieving that aim of of preparing them for employment in industry?

20. IF NO What adjustments in the training should be made in order to prepare them for employment in industry?

21. How do you recruit your building instructors?

22. Do you have fully trained instructors in the building trade?

23. Are there any courses or seminars organised to upgrade your instructors or to keep them abreast with events in the building trade?

24. Where do you get the money to run the institute?

25. Is the money that you get enough?

26. Do you have enough tools and equipment in the building trade?

27. Who formulates the syllabus for the building trade?

28. Has there been any review of the syllabus in the building trade?

29. IF YES When was the last review of the syllabus in the building trade?

30. There is an industrial trade test that enables builders to attain the status of qualified journeyman, does your institute aim to prepare the trainees for this test?

31. Do you assist trainees in seeking employment at the end of their course?

32. Do you at times get requests from some of the building and constuction companies to recommend some of your trainees for employment?

33. Do you get some of your former trainees coming back to you

seeking assistance in getting employment or asking for recommendations?

34. Do you make any follow up to find out what your former trainees are doing?

35. Are there any officials from outside the training institute who visit the institute to supervise or inspect the work of the building instructors?

36. Do you hold meetings with people from other training institutes to discuss matters concerning the training?

37. What are your future plans for the training institute?

Appendix 4

LINKÖPING UNIVERSITY

Department of Education and Psychology

Semi-standardised, semi- structured intervie with building instructors at non-formal vocational training institutes.

Purpose of the interview:

To find out what skills, knowledge and attitudes the training programmes provide to the trainees.

Name of student carrying out the research: Cornelius K. Rudzuna.

1.What are the most important skills that you expect the trainees to aquire?

2. How many hours per week are set for practical work?

3. How many hours per week are set for theory work?

4. Do you think that sufficient time is allocated for the course?

5 Do you find that the educational level of the trainees on entry has any influence on their training?

6. What do you think should be the level of education recommended as entry qualification for the trainees?

7. Is the building syllabus revised at any time?

8. IF YES How frequently?

9. IF NO Do you think there is a need for a review?

10. What changes would you bring into the training if you were to review the syllabus at the moment?

11. How do you decide what practical projects should be done?

12. Do you change the practical projects from year to year?

13. What source for planning your teaching do you use?

14. Do you think that the trainees will be able to put up a complete building on their own after this programme?

15. IF YES Have they put up a complete building during their training?

16. IF NO Why do you think they will not be able to put up a complete building on their own after training?

17. Is the comparison of the cost of buying bricks with the cost of making them included in the training programme?

18. Is the knowledge about the ordering of building materials included in the training programme?

19. Do you at any time make visits to building sites with the trainees?

20. How many visits have you made this year?

21. How do you assess the trainees progress during the training programme?

22. How do you assess the trainees at the end of the programme?

23. What is the rate of passing in this programme?

24. What happens to the trainees that do not pass at the end of the programme?

25. What employment opportunities do you think are there for the trainees after training?

26. What grade of employment in the industry do you think the trainees will hold?

Appendix 5

LINKÖPING UNIVERSITY
Department of Education and Psychology

Questionnaire to trainees in the building trade.

I am a master degree student doing a research project concerning training in the building trade. Part of the research involves obtaining information from trainees . This questionnaire consists of questions about your experiences during the training.

Instructions on how to answer questions on the questionnaire:

a) No one is required to write their name on the questionnaire, which means that you answer this questionnaire anonymously. Your answers will only be used by the researcher for his study.

b) In most of the questions, you are required to indicate with a cross in the appropriate space or spaces between the brackets against the answers that you choose.

c) You are allowed to answer in your own language if you like.

Name of student carrying out the research: Cornelius K. Rudzuna.

1. Indicate the building operations that you have done so far during your training.

( ) Building a half-brick straight wall in Strecher bond.

( ) Building a one-brick straight wall in English bond.

( ) Building a junction wall between a half-brick wall in Strecher bond and a one-brick wall in English bond.

( ) Building a one-brick return angle wall in English bond.

( ) Constructing a foundation.

( ) Proportioning, mixing and placing concrete.

( ) Fixing a door or a window frame in an opening.

( ) Constructing a roof.

( ) Plastering the outside of a wall.

( ) Plastering the inside of a wall.

( ) Constructing a cement floor with a smooth finish.

( ) Glazing a window.

( ) Hanging a door.

( ) Painting the walls of a building.

( ) Painting a door.

( ) Laying drainage pipes.

2. Which of the following have you learnt during your training.

( ) Drawing plans, elevations and cross-sections of a simple building.

( ) Reading and interpreting plans, elevations and cross-sections of a simple building.

( ) Calculating the number of bricks needed to build a house when given the plan and elevations of the building.

( ) How to make orders of building materials.

3. After you have completed your training, do you think that in the

building of a simple house

( ) you would be able to comlete it without the need for advice and supervision of a more experienced person.

( ) you would be able to do only part of it on your own and would need the advice and supervision of a more experienced person on the other parts.

( ) you would not be able to do any part of the building alone without the advice and supervision of a more experienced person.

4. State briefly in which area you think the training should be increased

_____

_____

_____

5. Indicate which of the problems below that youn have encountered during your training

( ) Shortage of tools.

( ) Shortage of sufficiently trained instructors.

( ) Shortage of building materials like cement, sand, bricks and water.

( ) Shortage of reading and writing meterial.

6. Indicate the number of hours per week that you spend on practical work.

( ) 40 hours and more.

( ) 30 hours to 39 hours.

( ) 20 hours to 29 hours.

( ) Less than 20 hours.

7. Indicate the number of hours per week that you spend on theory.

( ) 5 hours and more.

( ) 3 hours to 4 hours.

( ) 1 hour to 2 hours.

( ) Less than 1 hour.

8. What is your opinion on the length of the whole training programme?

( ) It is too short because there is not enough time to cover enough practical work.

( ) It is too short because there is not enough time to cover enough theory work.

( ) It is just about the right length.

( ) It is too long because we have freetime after finishing our practical work.

( ) It is too long because we have free time after finishing our theory work.

9. Do you know of some people who have completed their training at this training institute?

( ) Yes.

( ) No.

10. Are these people doing well in their careers?

( ) Yes.

( ) No.

( ) I do not know.

11. Are these people still involved in the building trade?

( ) Yes.

( ) Some are.

( ) No.

( ) I do not know.

12. Which one of the employment alternatives would you like to join after training?

( ) Employment in a building and construction company.

( ) Self-employment by building houses for people.

13. Have you made any visits to building sites as part of this training programme?

( ) Yes. How many visits have you made this year?_____

( ) No.

14. Have you heard about the industrial trade test?

( ) Yes.

( ) No.

15. Do you think that there is any benefit in passing the trade test after your training?

( ) Yes,because_____

_____

_____

( ) No.

16. Do you think you will be able to pass the trade test with the training that you have recieved here?

( ) Yes.

( ) No.

17. Have you learnt ways of reducing costs during the process of constructing a building?

( ) Yes.

( ) No.

18. State two ways how to reduce costs that you have learnt.

A._____

_____ B.

_____

_____

19. How do you get the bricks that you use during your practical lessons?

( ) All of them are bought by the institute.

( ) Some of them are bought by the institute and we make the others.

( ) We make all the bricks that we use for our practical lessons.